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STATE-OF-THE-ART PAPER

CLINICAL RESEARCH

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CARDIOMETABOLIC RISK

Allopurinol Reduces LVH in Type 2 Diabetes Mellitus **2284**

Benjamin R. Szwejkowski, Stephen J. Gandy, Sushma Rekhraj, John G. Houston, Chim C. Lang, Andrew D. Morris, Jacob George, Allan D. Struthers

Szwejkowski and colleagues performed a randomized, double-blind trial to ascertain whether high-dose allopurinol regresses left ventricular mass (LVM) in patients with type 2 diabetes mellitus and left ventricular hypertrophy (LVH). Allopurinol 600 mg/day or placebo was given for 9 months. Allopurinol significantly reduced absolute LVM and LVM indexed to body surface area, as calculated by cardiac magnetic resonance imaging. The authors speculate that allopurinol reduces oxidative stress in the ventricle and that this is the mechanism for the reduction in LVM.

Editorial Comment: Nathaniel Reichek, p. 2294

CARDIOMETABOLIC RISK

Weight Loss and Vascular Health **2297**

Sherman J. Bigornia, Melissa G. Farb, Stephanie Tiwari, Shakun Karki, Naomi M. Hamburg, Joseph A. Vita, Donald T. Hess, Michael P. LaValley, Caroline M. Apovian, Noyan Gokce

Bigornia and colleagues studied whether the effects of weight loss on arterial function are modified by insulin levels. Plasma metabolic parameters and vascular endothelial function were assessed at baseline and following weight loss intervention in obese and overweight individuals. In individuals with higher baseline plasma insulin levels, >10% weight loss (compared with <10%) significantly improved brachial artery macrovascular flow-mediated vasodilation and microvascular reactive hyperemia. In contrast, vascular function did not change significantly in the lower insulin group despite a similar degree of weight loss. These findings suggest that reversal of insulin resistance and endothelial dysfunction may be mechanistically intertwined.

Editorial Comment: Todd J. Anderson, p. 2306

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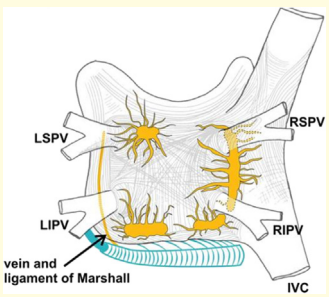
HEART FAILURE

Panel reactive antibody (PRA) screening is used to determine the presence of pre-formed antibodies to population-wide human leukocyte antigens. Patients with higher PRA values tend to have extended waiting times while listed for solid organ transplant. Morris and colleagues reviewed information in the Organ Procurement and Transplantation database to study whether race or ethnicity affect PRA levels. Blacks had a higher peak PRA than all other groups and were more likely to be sensitized. Black heart transplant recipients were more likely to experience graft failure than Hispanic, white, or Asian recipients. These results show that race/ethnicity and level of sensitization are important predictors of graft survival.

Editorial Comment: Sean P. Pinney, p. 2316

HEART RHYTHM DISORDERS



Katritsis and colleagues investigated whether the combination of conventional pulmonary vein isolation (PVI) and ganglionated plexi (GP) modification in a single ablation procedure yields higher success rates than PVI or GP ablation alone. A total of 242 patients with symptomatic paroxysmal atrial fibrillation (PAF) were recruited and randomized to either circumferential PVI, anatomic ablation of the main right and left atrial GP, or circumferential PVI followed by anatomic ablation of the 4 major atrial GP. Freedom from atrial fibrillation or other sustained atrial tachycardia was higher in the PVI+GP group. Addition of GP ablation to PVI confers a significantly higher success rate compared with either PVI or GP alone in patients with PAF.

Editorial Comment: Aman Chugh, p. 2326

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CARDIAC IMAGING

Aortic Stenosis Severity Grading With MDCT 2329

Marie-Annick Clavel, David Messika-Zeitoun, Philippe Pibarot, Shivani R. Aggarwal, Joseph Malouf, Phillip A. Araoz, Hector I. Michelena, Caroline Cueff, Eric Larose, Romain Capoulade, Alec Vahanian, Maurice Enriquez-Sarano

Clavel and colleagues hypothesized that the extent of aortic valve calcification (AVC) detected by multidetector computed tomography (MDCT) would correlate with the severity of aortic valve stenosis using Doppler echocardiography. A total of 646 patients with aortic stenosis (AS) underwent Doppler echocardiography and AVC measurement by MDCT. Mean transvalvular gradient (MG) was independently and strongly influenced by AVC. Among patients with AS, MG is often discordant from aortic valve area (AVA). The authors speculate that adding AVC may help to determine the severity of AS when there are discrepancies between MG and AVA.

Editorial Comment: Marc R. Dweck, Calvin Chin, David E. Newby, p. 2339